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PATENT SPECIFICATION



Application Date: Jan. 5, 1931. No. 376/31. **363,847**

Complete Accepted: Dec. 31, 1931.

COMPLETE SPECIFICATION.

Improvements in and relating to Figures for Use as Toys or for Advertising Purposes.

I, **ARTUR OTTO WILHELM DEICHMANN**, a citizen of Germany of Luisenstrasse 18, Bad Godesberg on Rhine, Germany, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The present invention relates to jointed figures, such for example as human or animal figures for use as toys, and advertising purposes of the kind in which the different parts, such as the head, body and limbs are adjustably connected to each other by means of ball and socket joints, so that movements or postures may be imitated in a life-like manner.

The problem of designing a jointed figure in such a manner that any lifelike posture can be imitated whilst the different limbs are adjusted and fixed with sufficient firmness in any desired position relative to each other is a rather difficult one which has not yet been adequately solved whilst complying with the simultaneous desiderata of simple and inexpensive construction.

According to the present invention, the sockets of the joints or certain of the same are in the form of perforations or cavities provided within one or both of a pair of clamping plates arranged in spaced relationship one to the other throughout their length and disposed upon opposite sides of the ball members of said joints.

Means are provided for maintaining the clamping plates in contact with the ball members, said means, if desired, being of such form as to permit of the adjustment of the pressure of contact between said ball members and their sockets.

The foregoing arrangement is preferably such that the plates themselves form limbs or body parts, such for instance, the trunk, the arms or legs.

The head is further provided with features adjustable by means, as for example, of ball and socket joints of the known kind in which case, for instance, the nose and chin could also be made adjustable, so that by moving these parts the appearance of the face and/or head

[Price 1/-]

may be varied to correspond with the expression consequent upon the position of different portions of the body. 55

Furthermore, if desired, the clamping plates may be suitably slotted or otherwise cut away at points near or adjoining the perforations or cavities formed therein to permit of greater freedom of movement of the limbs carried by the ball members or formed by the said clamping plates. 60

In order that the invention may be the better understood drawings are appended showing examples of various forms of the invention in which:— 65

Fig. 1 is a perspective view of a jointed toy or advertising doll with adjustable limbs and face. 70

Fig. 2 shows the central part of a figure embodying a modified form of construction. 75

Fig. 3 shows the trunk of a figure embodying a further modification. 75

Referring to the accompanying drawings: In fig. 1, 1 indicates the head of a toy or advertising doll, representing a human figure, provided with facial features, 2 nose, and 3 chin, which may be adjusted by rotating on pins or even interchangeable, the eyes can also be movable if desired. This head-piece, which is provided with a spherical or socket-like cavity of suitable shape is mounted on the upper ball-shaped extremity of a pin 4 and is movable in every direction. The lower ball-shaped extremity 5 of this pin fits into the block 6 which represents the upper portion of the trunk of the figure, and which block is provided for the purpose with spherical-shaped recesses 35, which act as a socket for the ball, so that the pin 4, which represents the neck of the figure, can be moved about in any plane and is held in any position by friction. Additional scope for movement is given by the slots 35¹ disposed near the socket 35. 80
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The ball-headed pins 7 and 8, rotatable round vertical pins 7¹, 8¹, form the shoulders of the doll and are secured to the trunk 6. They are held by the sockets 37 and 38 in the clamping plates 9, 10 and 11, 12, which form the upper arms. The clamping plates 9, 10 and 11, 100
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12 may be held together by clamping screws 13, 14 and 15, 16 whereby the tightness of fitting of the ball-headed pins 7, 8 in the sockets 37 and 38 can be increased, so that the upper arms can be set in any desired position in relation to the ball-headed pins 7 and 8.

The forearms of the doll consist of members 17, 18 having ball shaped ends, these ends fitting into cavities formed in the opposing faces of the pairs of clamping plates 9, 10 and 11, 12 respectively.

The lower part of the body consists of a member provided with three ball-headed pins 19, 20 and 21. The ball pin 19 fits into a socket formed by means of perforations such as 36 provided within the lower end of each of the clamping plates 36a, which at their upper ends are formed integral with the block 6, the arrangement being such that the pin 19 can be moved in any plane in relation to the upper parts of the body. Extra scope for adjustability is provided for by the slots 36¹, disposed near the spherical perforations 36, and designed to accommodate the straight part of the ball pin 19, and allow it to move freely therein.

The ball pins 20 and 21 are held between the clamping plates 23, 24 and 25, 26, forming the thighs, by means of screws 27, 28 and 29, 30, in the same way as the shoulders are secured to the upper arms. The shins consist of plates 31 and 32, the clamping screws 28 and 30 serving as pivots for the plates.

The feet comprise blocks 33 and 34, to give a more secure footing, these being rotatable round pivots disposed at right angles to the shin-pieces 31 and 32.

The range of adjustment of the shoulder and hip joints can be increased by confining the spherical sockets 37, 38 and 39, 40 for the ball pins to the outer clamping plates, the inner plates being made shorter and so that only their front edges come into contact with the ball heads of the pins which are to be clamped.

In the form of construction shown in Fig. 2, the trunk 41 is provided with a ball headed pin 42, likewise the thigh blocks 43 and 44 with ball headed pins 45 and 46.

These pins are held between two clamping plates 47 and 48, which may be triangular in shape, and which are held together by a screw 49 and wing nut 50.

As shown in Fig. 3, the trunk comprises two triangular clamping plates 51 and 52, which may be pressed together by means of bolt 53 and wing nut 54.

Socket forming perforations such as 55 and 56 are provided in each of the plates 51, 52, to form sockets for balls secured directly to the respective upper arm mem-

bers 57 and 58. Disposed at a point below the lower end of the plates 51 and 52 is a cross-piece or connecting piece composed of two clamping plates 61, 62, through which passes the shank of a ball headed pin 60, the ball of which is adjustably held within a socket formed by perforations such as 59 provided in the lower end of each of the plates 51, 52, the said cross-piece clamping the balls 65, 66 secured to the thigh members 63 and 64.

This clamping action can be adjusted by means of a wing nut 67 screwed on to the threaded end of the ball headed pin 60.

With this method of construction of the trunk and limbs of the figure, only two screws are necessary to secure the desired clamping action whilst ensuring universal adjustability.

A figure constructed in accordance with the present invention is particularly suitable for use in the manufacture of trick films, instead of the usual trick drawings.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. A jointed figure of the kind specified in which the sockets of the joints, or certain of same, are in the form of perforations or cavities provided within one or both of a pair of clamping plates arranged in spaced relationship one to the other throughout their length, and disposed upon opposite sides of the ball members of said joints together with means for maintaining said plates in contact with the balls, said means, if desired, being of such form as to permit of the adjustment of the pressure of contact between said ball members and said sockets.

2. A figure according to claim 1, characterized by the fact that the clamping plates are provided with slots to admit the cylindrical parts of the pins, thereby increasing the range of movement of the ball pins within their sockets.

3. A figure according to claim 1, characterized by the fact that one of the clamping plates holding a ball pin has a recess or perforation serving as a ball socket in which the ball rests, whilst the second clamping plate is of such length that only the end thereof engages the ball, thereby allowing the part clamped greater scope for movement in the direction of the shorter plate.

4. A figure according to claim 1, characterized by the fact that the lower part of the body is formed of a cross-piece with three ball headed pins, the upper most

one of these pins forming a ball joint with clamping plates constituting the upper part of the trunk and two lateral ball headed pins engaging perforations or cavities in clamping plates that represent the thighs.

5. Figures according to claim 1, constructed and arranged substantially as described with reference to Figures 2 or 3 of the appended drawings. 10

Dated this 2nd day of January, 1931.
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Fig. 2.

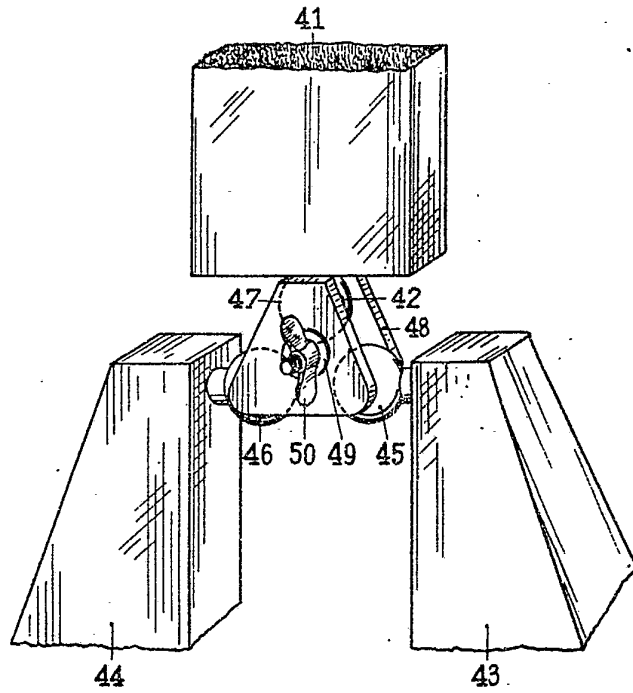
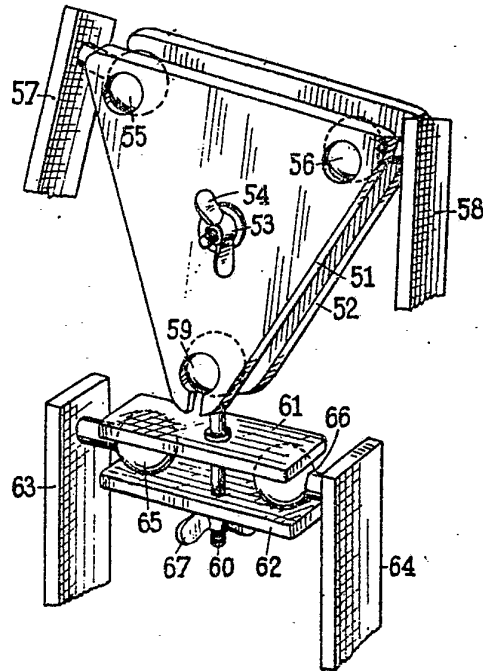


Fig. 3.



[This Drawing is a reproduction of the Original on a reduced scale.]

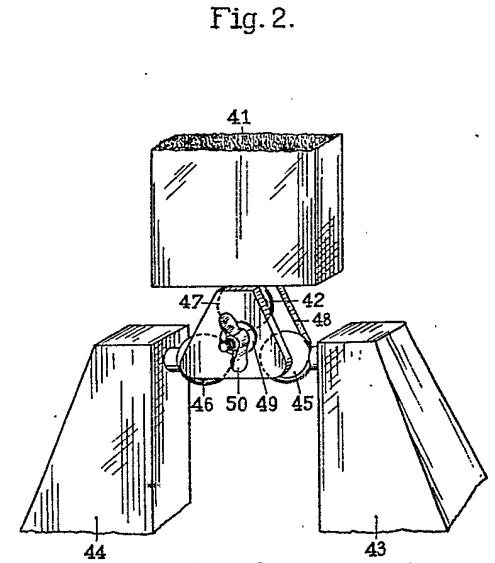
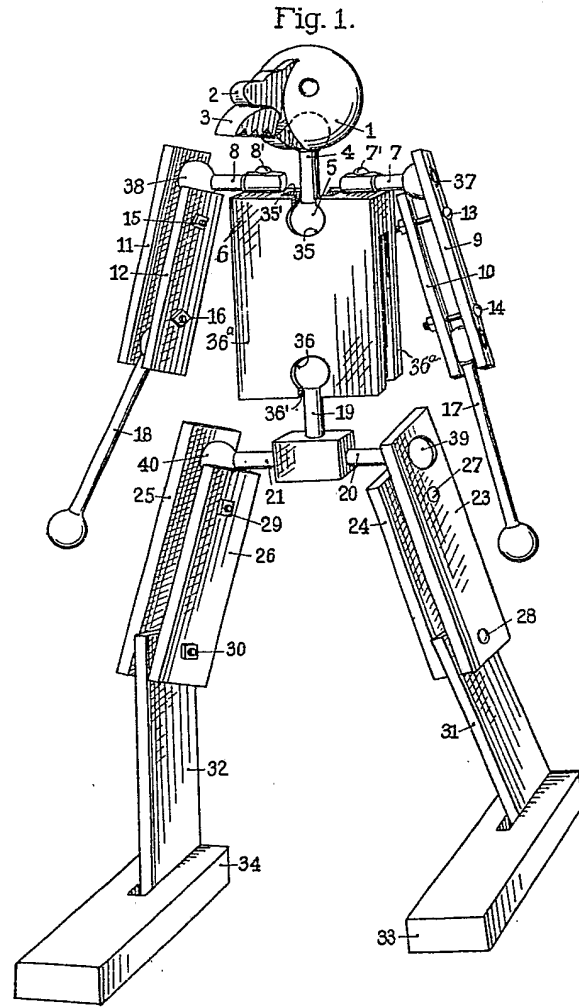


Fig. 3.

